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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,880	09/29/2005	Yasuyuki Kitayama	441P095	8386

42754 7590 03/15/2007  
NIELDS & LEMACK  
176 EAST MAIN STREET, SUITE 7  
WESTBORO, MA 01581

EXAMINER
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CHU, YONG LIANG

ART UNIT	PAPER NUMBER
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1626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/542,880

Applicant(s)

KITAYAMA ET AL.

Examiner

Yong Chu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/21/2006 and 10/24/2005.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

Claims 1-8 are pending in the instant application.

### ***Information Disclosure Statement***

Applicants' Information Disclosure Statements, filed on 6/21/2006 and 10/24/2005, have been considered. Please refer to Applicant's copies of the PTO-1449 submitted herewith.

### ***Priority***

This application is a 371 of PCT/JP04/00535 filed on 1/22/2004 22, and claims priority of Japanese Patent Application 2003-017537, filed on 1/27/2003 27.

### ***Response to Lack of Unity***

Applicants' election *without traverse* of Group II (claims 7 and 8) in the reply filed on 12/29/2006 is acknowledged. During the telephonic interview on 3/9/2007, Applicant's representative Mr. Kevin S. Lemark confirmed with the Examiner's request that claim 8 was further elected for initial search purpose, and admitted that all subject matters in claim 8 are within one invention, and they are obvious among the subject matters. A prior art that anticipates and/or renders obviousness over any one species in claim 8, will anticipates and or/renders obviousness over entire sub-genus of claim 8.

### ***Status of the Claims***

Claims 1-6 are further withdrawn from further consideration by the Examiner as being drawn to non-elected inventions due to Restriction Requirement dated on 12/7/2006. The withdrawn subject matter is patentably distinct from the elected subject matter as it differs in structure and element and would require separate search considerations. In addition, a reference that anticipates one invention would not render obvious the other invention.

### **Elected and Examined Subject Matter**

The scope of the invention of the elected subject matter and the examined subject matter is as follows:

Claim 7 (in part), and entire claim 8.

As a result of the election and the corresponding scope of the invention identified supra, claim the remaining subject matter of claim 7 is withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to non-elected inventions. The withdrawn compounds contain varying functional groups which are chemically recognized to differ in structure, function, and reactivity.

### ***Specification***

The first paragraph of the specification does not contain continuing data to which the instant specification claims benefit from. An appropriate amendment is required.

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**Claim Rejections - 35 USC § 102(b)**

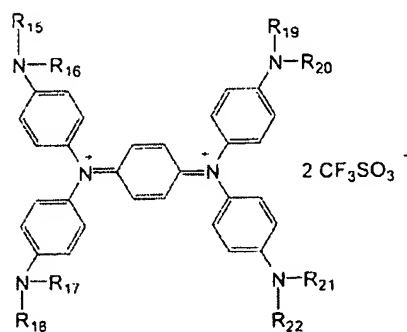
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, and 8 are rejected under 35 U.S.C. 102 (b) as being anticipated by Santo et al. JP. 2000-211239 (machine translation enclosed).

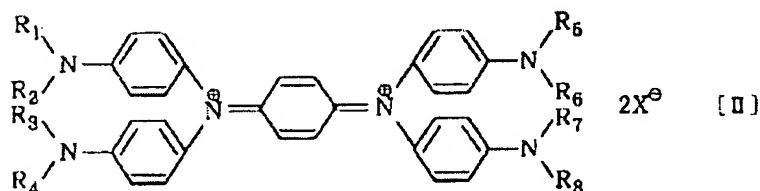
Applicants' claims relate to the compounds of formula (6)



in claim 8,

wherein R<sub>15</sub> to R<sub>22</sub> independently represent a straight-chain or branched butyl or pentyl group.

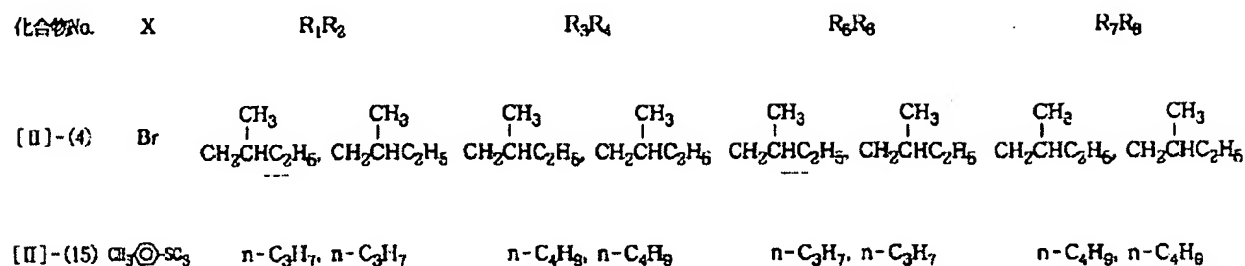
Santo et al. disclose a class of compounds with a general formula (II)



, more specifically, compound II-

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(4) and compound II-(15)



read on the instantly claimed sub-genus, wherein R<sub>15</sub> to R<sub>22</sub> independently represent straight-chain of n-propyl and/or n-butyl groups, or branched pentyl. (See pp. 9, line 6 and 21). X<sup>-</sup> is defined as an anion (see page 3 line 14). CF<sub>3</sub>SO<sub>3</sub><sup>-</sup> is an anion, which is well known to one skilled in the art, as listed in US 2002/0033661 (Sugimachi *et al.*) [0045] paragraph.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

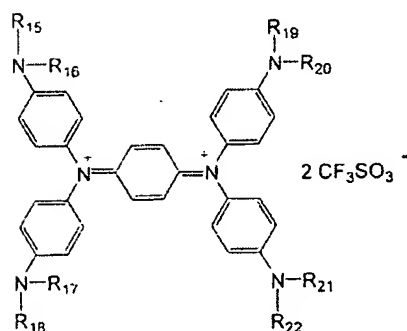
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7 and 8 are rejected under 35 U.S.C. 103 (a) as unpatentable over Santo et al. JP. 2000-211239.

Applicants' claims relate to the compounds of formula (6)

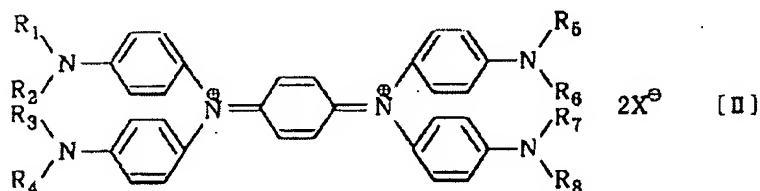


in claim 8,

wherein R<sub>15</sub> to R<sub>22</sub> independently represent a straight-chain or branched butyl or pentyl group.

Determination of the scope and content of the prior art (MPEP §2141.01)

Santo et al. disclose a class of compounds with a general formula (II)



, more specifically, compound II-

(4) and compound II-(15)

化合物No.	X	R <sub>1</sub> R <sub>2</sub>	R <sub>3</sub> R <sub>4</sub>	R <sub>5</sub> R <sub>6</sub>	R <sub>7</sub> R <sub>8</sub>
[II]-(4)	Br	$\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{H}_5$	$\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{H}_5$	$\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{H}_5$	$\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{H}_5$

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[II]-(15)  $\text{Cl}_3\text{C}-\text{SO}_3^-$      $n\text{-C}_3\text{H}_7$ ,  $n\text{-C}_3\text{H}_7$      $n\text{-C}_4\text{H}_9$ ,  $n\text{-C}_4\text{H}_9$      $n\text{-C}_3\text{H}_7$ ,  $n\text{-C}_3\text{H}_7$      $n\text{-C}_4\text{H}_9$ ,  $n\text{-C}_4\text{H}_9$

read on the instantly claimed sub-genus, wherein  $R_{15}$  to  $R_{22}$  independently represent straight-chain of  $n$ -propyl and/or  $n$ -butyl groups, or branched pentyl. (See pp. 9, line 6 and 21).  $X^-$  is defined as an anion (see page 3 line 14).  $\text{CF}_3\text{SO}_3^-$  is an anion, which is well known to one skilled in the art, as listed in US 2002/0033661 (Sugimachi *et al.*) [0045] paragraph.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the prior art of Santo *et al.* and the instantly claimed compounds is that Santo *et al.* teach the compounds with  $R_1 = R_2 = R_5 = R_6 = n\text{-C}_3\text{H}_7$ , and  $R_3 = R_4 = R_7 = R_8 = n\text{-C}_4\text{H}_9$ , in Example [II]-15, but does not teach all the compounds in claim 8.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

According to the telephonic interview on 3/9/2007, Applicant's representative Mr. Kevin S. Lemark confirmed with the Examiner's request that claim 8 was further elected for initial search purpose, and admitted that all subject matters in claim 8 are within one invention, and they are obvious among the subject matters. A prior art that anticipates and/or renders obviousness over any one species in claim 8, will anticipates and or/renders obviousness over entire sub-genus of claim 8. Therefore, the instant claimed compounds in claim 7 (in part) and 8 are obvious to one skilled in the art.



***Claim Objections***

Claim 7 is objected to for containing elected and non-elected subject matter. The elected subject matter has been identified supra. Applicant should amend the claims according to the scope of the invention.

***Conclusion***

No claims are allowed.


***Telephone Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Chu whose telephone number is 571-272-5759. The examiner can normally be reached between 7:00 am - 3:30 pm EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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